



# Next level conveyor performance Voith BeltGenius ALEX

Voith BeltGenius is the product family that is used for monitoring, benchmarking and optimization of belt conveyors and conveying systems. Now, mines can get a complete picture of their system's performance with our intelligent sensor and software technologies. You can reduce maintenance frequency, unexpected downtime and total material transport costs considerably. Furthermore, Voith BeltGenius is also helping mines reduce their CO<sub>2</sub> footprint.



The mining industry is facing serious challenges including decreasing ore concentrations, rough weather conditions at remote locations and a growing interest in environmental protection. Volatile raw material prices are also exerting economic pressure on mines. The industry needs new digitized solutions to address these challenges and increase productivity. Belt skewing, excessive energy consumption and high spare part costs are the result when belt conveyors are not properly aligned. When excessive wear occurs, complete belt sections have to be replaced. BeltGenius ALEX detects any misalignment of the belt and helps you increase the lifetime of your mining equipment, leading to significant cost reductions. Voith's BeltGenius ERIC service offers another even more comprehensive approach to maximizing conveying energy performance.

---

**“BeltGenius ALEX is a real alignment expert, detecting potential catastrophic issues in idler installations. Newly designed 3D sensors allow an extremely high accuracy level for a maximum benefit.”**

**Dr. Manfred Ziegler**, VP Engineering Belt Conveyor

---

#### **Measurement procedure**

BeltGenius ALEX, which stands for Alignment Expert, consists of a dual sensor chain. The sensors are mounted to both belt edges during the data recording procedure, which is conducted by Voith service engineers. The 3D sensors detect any misalignment of individual idlers, garlands, or specified idler racks. The result of the first run is a report that provides clear adjustment recommendations for accurate positioning. Implementing the recommended measures leads to significant wear reduction, efficiency improvements and uptime. The verification run provides a benchmark report on the level of improvement as well as an analysis of the overall benefits achieved.

#### **Belt guidance**

The stability of the belt alignment is the key to achieving sustainable and economic bulk material transportation. Operators have effective methods of fighting belt misalignment, but the result is not always as efficient as it could be. Following recommendations from BeltGenius ALEX eliminates the steering forces of tilted idler stations efficiently, avoiding belt skewing and, consequently, belt damage, material spillage, and unexpected downtime as well.



## Process steps



## Features

- Belt alignment tracking
- Sensor-based alignment detection of idlers and frames
- Clear instructions to eliminate root causes
- Dual-sensor chain on both belt edges
- Fast on-site service by Voith

## Benefits

- + Intelligent analytical system to identify ways to improve
- + Verification of alignment correction included
- + Failure prediction capability avoids unexpected down-time
- + Extends service life of belt
- + Increases service life of idlers by as much as 20 %
- + Potential energy efficiency gains of more than 10 % from reduced friction losses
- + Significant and sustainable reduction of bulk material transportation costs

Voith Turbo GmbH & Co. KG  
Voithstraße 1  
74564 Crailsheim  
Germany  
Tel. +49 7951 32-1666

[industry.service@voith.com](mailto:industry.service@voith.com)  
[www.voith.com/beltgenius](http://www.voith.com/beltgenius)



**VOITH**  
Inspiring Technology  
for Generations